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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,208	01/18/2002	David H. DeYoung	98-2331	4055
8840	7590	03/12/2004		
ECKERT SEAMANS CHERIN & MOLLETT, LLC ALCOA TECHNICAL CENTER 100 TECHNICAL DRIVE ALCOA CENTER, PA 15069-0001			EXAMINER MORILLO, JANELL COMBS	
			ART UNIT 1742	PAPER NUMBER

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/053,208	Applicant(s) DEYOUNG ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 10, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16, 19, 21 and 23-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43-49 and 57-63 is/are allowed.
- 6) ☒ Claim(s) 16, 19, 21, 23-27, 36-42 and 50-56 is/are rejected.
- 7) ☒ Claim(s) 28-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Interpretation

1. Independent claim 36 refers to “AA7050-type aluminum alloy”, and independent claim 50 refers to “AA7055-type aluminum alloy”. In view of the instant specification, the examiner has interpreted this to mean 7050 or 7055 alloys, respectively, as registered with the Aluminum Association- the 7050 or 7055 alloy, complete with ranges specified by the Aluminum Association.

In response to applicant's argument that “AA7050-type aluminum alloy” (claim 36) and “AA7055-type aluminum alloy” (claim 50) are drawn to compositions that are modified by the term “about”, the examiner submits that said alloys are held to be “modified” to the degree that the Aluminum Association gives ranges for the alloying elements. See attached “International Alloy Designations and Chemical Composition Limits for Wrought Aluminum and Wrought Aluminum Alloys”, p. 10, for these particular ranges.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 36-42, 50-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36 refers to “AA7050-type aluminum alloy... comprising from about 5 to about 100 ppm calcium, from about 0.001 to about 0.25 wt% grain refiners”. Applicant remarks that

Art Unit: 1742

the grain refiners are not in addition to those compositions (arguments page 11), however, applicant also argues that Zr is not within the scope of the presently claimed "grain refiner". The only grain refiner in the AA7050 composition is Ti, and wherein $Ti \leq 0.06\%$ for said AA7050 alloy. Therefore, it is unclear the particular composition ranges referred to (is the grain refiner in addition to the $Ti \leq 0.06\%$ allowed for said AA7050 alloy? Is "from about 0.001 to about 0.25 wt.% grain refiners" the total amount of grain refining addition?).

Claim 50 is similarly phrased (and wherein AA7055 has a maximum Ti content of 0.06%).

Clarification is needed. Claims dependent on the above rejected claims are likewise rejected under this statute. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16, 19, 21, 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi (US 2,166,496 A).

Igarashi teaches a 7000 series aluminum alloy comprising (in weight%): 1-3% Cu, 4-20% Zn, 1-2% Mg, 0.1-2% Mn, 0.01-0.5% Cr, 0.01-0.2% Ca (column 1 lines 47-51), and optionally 0.01-0.5% titanium (column 2 line 48). Igarashi teaches that said addition of Cr and Ca achieves

Art Unit: 1742

good forgability and a remarkable resistance to cracking (column 2 lines 35-36), and that the instant range of Ti “increases the quality of the alloys to a large extent” (column 2 lines 49-50).

Concerning dependent claims 19, 25-27, Igarashi teaches the optional addition of 0.01-0.5% titanium (column 2 line 48), which overlaps the presently claimed ranges.

Concerning dependent claim 21, Igarashi teaches casting, forming into a strip, and heat treating said 7000 series alloy (column 1 line 40, 55-60).

Because Igarashi teaches an overlapping alloy composition, it is held that Igarashi has created a prima facie case of obviousness of the presently claimed invention. Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Allowable Subject Matter

6. Claims 36 and 50 (along with dependent claims 37-42, 51-56) would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. The prior art does not teach or suggest an aluminum alloy with the presently claimed compositional ranges, complete with the instant range of Ca and grain refiners.

7. Independent claims 43 and 57 are allowable over the prior art of record. Likewise, dependent claims 44-49 and 58-63 are allowable. The prior art does not teach or suggest an aluminum alloy with the presently claimed compositional ranges, complete with the instant range of Ca and grain refiners.

Art Unit: 1742

8. Claims 28-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or suggest an aluminum alloy with the presently claimed compositional ranges, complete with the instant range of Ca and grain refiners.

Response to Amendment/Arguments

9. In applicant's response filed on December 10, 2003, applicant amended claims 16, 19, 23, 24, 27, 36, 37, 43, 50, and 51, canceled claim 22, and amended the instant specification and drawings.

Applicant's argument that instant claims 36 and 50 are allowable over the prior art of record because Zr is not considered a grain refiner during the solidification process (and wherein the reference to Zr in the instant specification has been removed), has been found persuasive.

Applicant's argument that the present invention is allowable over the prior art of record because Igarishi does not teach examples within the instant ranges has not been found persuasive. As stated above, it would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1742


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jcm
March 7, 2004


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER